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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

APR 21 1993

In the Matter of)

Implementation of Section 17)
of the Cable Television)
Consumer Protection and)
Competition Act of 1992)

Compatibility Between)
Cable Systems and Consumer)
Electronics Equipment)

To: The Commission

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY
ET Docket No. 93-7

REPLY COMMENTS OF SONY CORPORATION OF AMERICA

Sony Corporation of America ("Sony"), by its attorneys, hereby submits its reply comments in response to the Notice of Inquiry ("NOI"), FCC 93-30, released by the Federal Communications Commission ("FCC" or "Commission") on January 29, 1993, in the above-captioned proceeding.

I. STANDARDIZING EXISTING CHANNEL SELECTION IR CODES IS AN IMPORTANT INTERIM SOLUTION.

Sony continues to believe that standardizing the existing cable channel selection infra-red ("IR") codes is an important interim solution to the cable and consumer electronics ("CE") compatibility problem.¹ Since filing initial comments in this proceeding, Sony has introduced two VCRs which contain a

¹ See Comments of Sony Corporation of America at 14-16 ("Sony Comments").

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Cable Mouse™ system² that can control most cable boxes by using IR transmissions. The Cable Mouse™ system consists of an IR repeater (i.e. the "Cable Mouse™") that uses existing basic cable IR codes to change channels on most cable boxes and thus improves VCR time shifting and regular viewing capabilities. The Cable Mouse™ rests on top of the cable box and is connected to the VCR by a plug-in cable. See Description of Sony SLV-750HF VCR, attached hereto as Exhibit 1.

Products such as Sony's VCRs with the Cable Mouse™ system demonstrate the commitment of the consumer electronics community to providing consumer friendly and cable friendly products, even in the absence of national scrambling and addressability standards. However, the operation of such products requires the transmission of the existing cable box channel selection IR codes. Indeed, if new cable channel IR codes are introduced, these products no longer would be able to control channel selection on most cable boxes, which in turn, could cause consumer dissatisfaction. For this reason, Sony believes that serious consideration must be given by the cable community to "freezing" the existing channel selection IR codes.

² These products are the SLV-750HF VCR and the SLV-900HF VCR.

II. BROADBAND DESCRAMBLING IS THE MOST EFFECTIVE SOLUTION.

As discussed in our initial comments, freezing the existing channel selection IR codes will provide more convenience for consumers and help preserve the utility of premium CE features, but is not an ultimate solution to the cable/CE compatibility problem.³ See Sony Comments at 19. For this reason, Sony continues to believe that broadband descrambling, although not presently commercially available, has the most potential for simultaneously satisfying the needs of cable operators, CE manufacturers, and most importantly, consumers. Id. at 19-21. Broadband descrambling allows consumers to utilize their existing TVs and VCRs equipped with cable tuners, without requiring new investments in CE equipment.⁴ Furthermore, broadband descrambling would enable TVs and VCRs to perform all of their advanced functions, without using multiple cable boxes, splitters and A/B switches. Broadband descrambling also should provide the type of addressability and security required by cable operators.

³ Standardizing basic cable IR codes still would require consumers to purchase or rent two cable boxes in order to watch one program while recording another program when scrambling is used extensively.

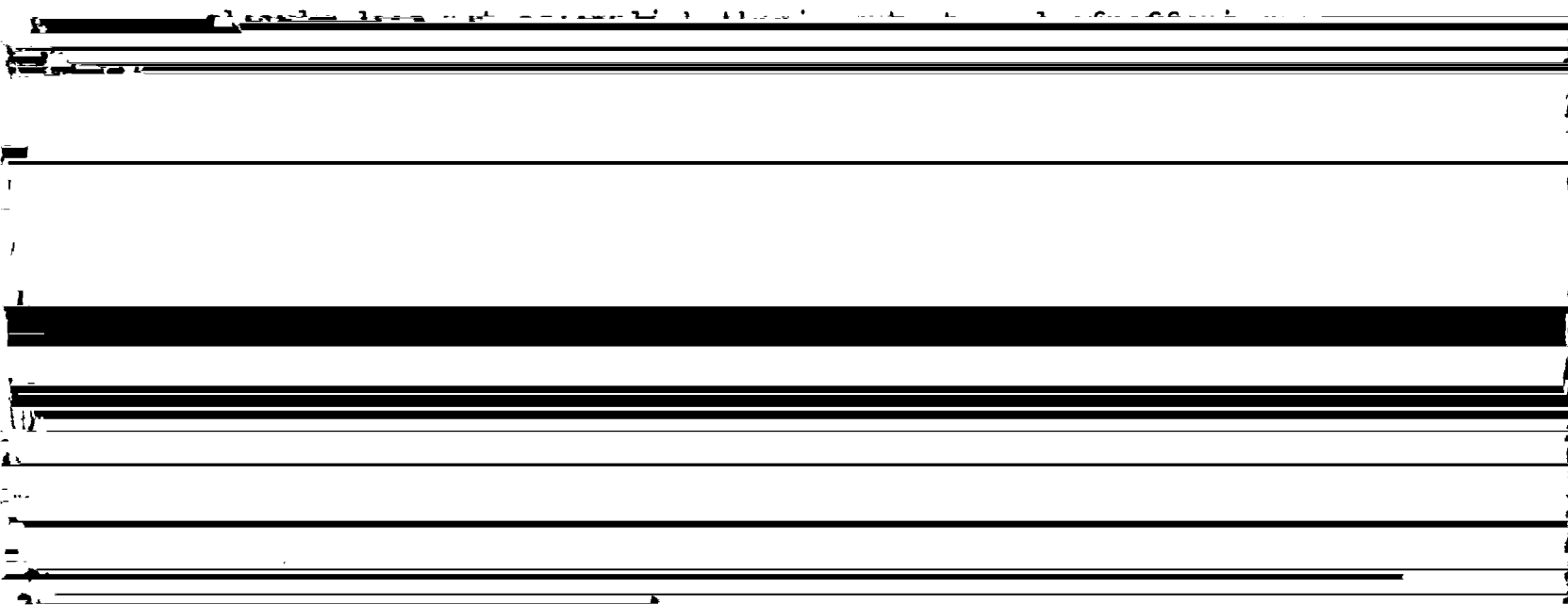
⁴ This capability is extremely important because there is a huge installed base of TVs and VCRs with tuners that receive cable frequencies. In the last three years alone, Sony estimates that consumers have invested more than \$30 billion in new TVs and VCRs, virtually all of which can tune unscrambled cable channels. Sony Comments at 20.

III. DECODER INTERFACES MERIT FURTHER STUDY, BUT ARE NOT A SHORT TERM SOLUTION.

Sony continues to believe that a decoder interface merits study as a long-term solution, but that its effectiveness and attractiveness is limited. Sony Comments at 18-19.

The existing EIA-563 Multiport interface is obsolete because it cannot accommodate several scrambling techniques used by cable systems today; nor can it accommodate digital transmissions.

Furthermore, even if a new, improved, easy-to-implement analog decoder interface could be agreed upon and designed in a short time, consumer products with the analog interface could not be available before mid 1996, at the earliest. Even by then, only a limited selection of new TV and VCR models would be equipped with the new analog interface. Moreover, a significant installed base of such sets would not exist until well into the first decade of the 21st century. The decoder interface thus



community agrees to continue transmitting a reasonable number of channels (i.e. perhaps 50, 80, or 100 channels) in analog format for the foreseeable future. Similarly, cable operators would have to agree to use only those scrambling techniques that are compatible with the decoder interface. Additionally, cable operators would have to agree to provide decoders at a lower cost than traditional cable boxes in order to encourage consumers to purchase decoder interface equipped sets.

Moreover, several publicly discussed plans exist to begin digital transmission as early as 1994. An agreement to transmit a reasonable number of channels in analog format thus may be difficult to secure. Without such an agreement, little would be gained by implementing analog decoder interfaces, since consumers could lose a portion of their investment in new consumer electronic equipment as soon as their cable system converts to a digital format.

Finally, while a decoder interface compatible with both analog and digital transmission standards might appear to be an attractive prospect, this concept has come under study only recently. Since there currently are no standardized techniques for digital transmission, it clearly will take some time to investigate whether a hybrid analog/digital decoder interface is technologically feasible. As a result, even if the hybrid analog/digital decoder interface eventually is developed, it could not be marketed until at least 1997 or 1998. Moreover, a

significant installed base of such sets would not exist before 2008, at the earliest.

Furthermore, the implementation of the hybrid decoder interface, like its analog counterpart, would require active cooperation from the cable industry. For example, the hybrid decoder interface could impose restrictions on the methods of digital transmission or encryption used by cable systems. As in the case of the analog decoder interface, cable operators also would need to offer consumers a financial incentive in the form of lower rates for decoder rentals in order to encourage consumers to purchase hybrid decoder interface equipped sets.

For these reasons, although the decoder interface proposals clearly merit further research and study, they do not represent a near-term solution to the cable/CE compatibility problem and cannot address the issue of restoring the functionality of consumers' existing sets.

IV. STANDARDS FOR DIGITAL TRANSMISSION AND ENCRYPTION MUST DEVELOP.

As mentioned in many of the comments submitted by other parties in this proceeding, it is vitally important that standards develop for digital compression, encryption and transmission. A fragmented approach to digital transmission will result in a proliferation of set-top boxes with their attendant problems for consumer operation, which would make the current


cable CE/compatibility issue pale by comparison. The use of a common approach for transmission and compression as well as flexible solutions (such as smart cards) for encryption will result in the lowest cost products for consumers and the fastest penetration for these new digital services.

CONCLUSION

Both the cable and CE industries have taken steps towards improving cable/CE compatibility. Agreement to standardize the existing basic cable IR codes is an important step towards reaching a satisfactory interim solution. However, the development of broadband descrambling is the most effective solution for the installed base of CE equipment. Decoder interfaces merit further study, but do not represent a short-term solution. Furthermore, it is vital that uniform standards for digital transmission develop in order to avoid a proliferation of set-top boxes and to accelerate the penetration for new digital services.

Respectfully submitted,

SONY CORPORATION OF AMERICA

By: 
Craig J. Blakeley
Lee J. Tiedrich

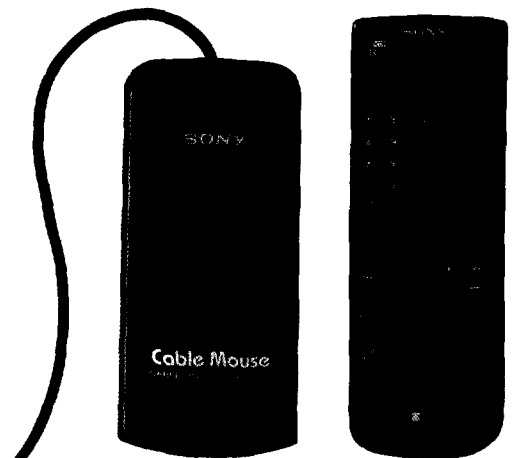
Sidley & Austin
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Washington, DC 20006
(202) 736-8000

Dated: April 21, 1993

SLV-750HF

VHS HI-FI STEREO VIDEOCASSETTE RECORDER

- VHS HI-FI STEREO; MTS STEREO TV RECEPTION¹
- SONY CABLE MOUSE™ SYSTEM LETS THE VCR CONTROL CHANNEL
SELECTION ON MOST CABLE BOXES
- ADAPTIVE PICTURE CONTROL (APC) GETS THE BEST FROM
EACH TAPE YOU USE
- VCR PLUS+™ SYSTEM; TIMER PROGRAMMING AS EASY AS
DIALING A PHONE NUMBER
- UNIQUE, DUAL MODE SHUTTLE CONTROL HANDLES
13 ESSENTIAL FUNCTIONS



CABLE MOUSE™
CABLE BOX CONTROLLER

THE WIRELESS REMOTE
INCLUDES SONY'S
REMARKABLE DUAL MODE
SHUTTLE CONTROL

VHS Hi-Fi
VCR *Plus+*



SLV-750HF

VHS Hi-Fi VCR with Sony's Amazing Cable Mouse System

Imagine a VCR smart enough to tune channels on most cable boxes – thanks to something called the Cable Mouse system. Imagine a VCR that makes programming easy – even on “impossible” assignments like recording more than one scrambled cable channel. Imagine a VCR that anticipates what you’re trying to do and offers helpful advice on how to do it. Imagine a machine that integrates 13 different functions into a single, large rotary knob – the Dual Mode Shuttle Control. What you’ve just imagined is the Sony SLV-750HF, the VCR so thoroughly sophisticated, it’s simple.

Features

Video

- **ADAPTIVE PICTURE CONTROL (APC)** tests each tape and adjusts recording parameters for best performance; also adjusts playback for ideal balance of picture sharpness and low video “noise”
- **DUAL AZIMUTH 4-HEAD RECORDING/PLAYBACK** for superior picture quality
- **CRYSTAL CLEAR** freeze frame, variable speed slow motion
- **TAPE STABILIZER** for smooth tape transport and reduced picture jitter
- **NARROW VIDEO HEAD** for improved playback picture quality in EP mode

Audio

- **VHS HI-FI STEREO RECORDING AND PLAYBACK** for wide dynamic range and full frequency response
- **BUILT-IN MTS STEREO TUNER**¹ receives stereo broadcasts

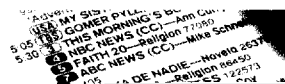
Convenience

- **DUAL MODE SHUTTLE CONTROL:** a single control for simple operation of all major functions: slow motion, frame advance and search (all in forward & reverse directions) as well as play, stop, fast forward and rewind
- **RAPID ACCESS™ TAPE TRANSPORT SYSTEM** for fast access to the video image and a reduction in response time between functions
- **EDIT SWITCH** optimizes picture quality for tape-to-tape editing

- **SONY'S CABLE MOUSE** remote repeater lets the VCR control channel selection on most cable boxes; permits timer recording of more than one scrambled cable channel in sequence²
- **8-EVENT/1-MONTH TIMER** with 3-hour backup and convenient quick timer feature for one-touch recording
- **“CONTEXT-SENSITIVE” ON-SCREEN HELP** with new, full-color messages; like having a VCR expert on-hand to give you advice
- **AUTO HEAD CLEANER** reduces head clogging by automatically clearing tape residue whenever a tape is loaded or ejected
- **HIGH SPEED REWIND** lets you rewind a T-120 in about half the time of typical VCR's
- **SKIP SEARCH** automatically advances the tape 30 seconds at the touch of a button
- **DIGITAL AUTO TRACKING** for automatic tracking adjustment
- **CAMCORDER FRIENDLY FRONT-PANEL INPUTS** in addition to rear-panel line inputs; for hooking up a camcorder without turning the VCR around
- **LINEAR COUNTER** indicates tape position in hours, minutes and seconds of real time
- **ELECTRONIC TAB MARKER INDEXING SYSTEM™** feature enables quick access via fast forward or rewind to the start of recorded sections; Index Scan mode scans up to 19 index marks in sequence
- **RMT-V130 WIRELESS UNICOMMANDER® REMOTE CONTROL** with VCR Plus+™ programming and dual mode shuttle control; provides unified control for a Sony TV
- **EXPRESS TUNING®** system with a 181 channel² frequency synthesis tuner

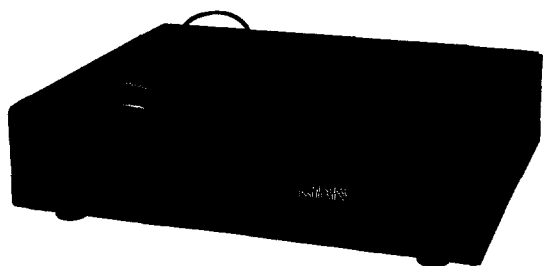
VCR Plus+™: Timer Programming

If you can dial a telephone number, you can program the SLV-750HF, thanks to the VCR Plus+ system. Even if you have cable TV, the VCR Plus+ system can make your life a whole lot easier. Just look in TV Guide or your newspaper's TV listings for the PlusCode™ number of the program you want. Then punch it in the remote control, and presto! Start time, stop time, and channel are all set automatically! And PlusCode listings are found in over 600 publications nationwide.



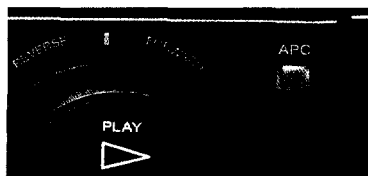
Sony's Cable Mouse™ System

Set your cable remote aside. And place your cable box wherever it looks best. Because Sony's Cable Mouse system lets you change channels on the cable box simply by pointing the VCR remote at the VCR! Now it's easy to select the scrambled or unscrambled cable channels you subscribe to. You can even record one or more of those channels with the VCR Plus+ system; the Cable Mouse system automatically tunes to the right station. Sony's Cable Mouse system takes the form of a sleek, infrared "repeater" that rests atop the cable box. It works with most infrared remote cable converter boxes in use today.



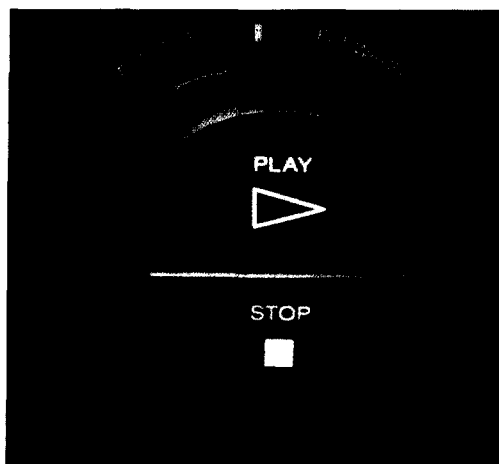
Adaptive Picture Control (APC)

To get every last ounce of video performance from tapes and VCR alike, the SLV-750HF incorporates Adaptive Picture Control (APC). In the record mode, APC automatically tests each tape and monitors the condition of the video heads. It then adjusts the VCR recording circuitry to capture images that are as clear and crisp as they can be. You get the best from videotape and video heads alike. In playback, APC automatically finds the optimum balance of picture sharpness and clarity. So you extract the full potential from every tape – no matter what tape you use.



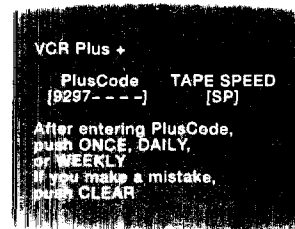
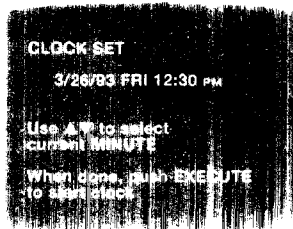
The Sony Shuttle

Slow motion. Frame advance. 2X play. Picture search. All these wonderful playback modes bring with them all those annoying little buttons. That's why Sony invented the Dual Mode Shuttle control – the one control with thirteen separate functions! Turn this large knob forward and you've got every special effects mode from frame-by-frame advance to high-speed picture search. Turn in the opposite direction and you get all these modes in reverse! Which means you can rock the control back and forth to find, play, replay and study anything from touchdowns to touch dancing. There's more. Hit the Stop button, thoughtfully located in the center, and turn the knob to the right for Fast Forward, to the left for Rewind. The Sony Shuttle. It's so simple and so logical, the only thing you won't understand is why no one's ever done it before.



Expert Help When You Need It

If you use your VCR with more confidence when a technical whiz is giving you advice, you'll appreciate Sony's On-Screen Help. It's like having a technical expert ready to talk you through just about any operation. In plain English and easy-to-read upper and lower case letters, help messages explain exactly how to set the clock, tuner, VCR Plus+ channels, and more. And the help is "context-sensitive." If you make a mistake, the messages will help you correct it.



Specifications

FORMAT: VHS

RECORDING SPEEDS: SP/EP

PLAYBACK SPEEDS: SP/EP/LP

CHANNEL COVERAGE: VHF: 2-13; UHF: 14-69; CATV²: 1-125

TOTAL CHANNELS: 181

ANTENNA TERMINALS: 75-ohm "F" type

VIDEO HEADS: Double Azimuth 4-head system

VIDEO SIGNAL-TO-NOISE RATIO: Better than 45 dB

DYNAMIC RANGE: More than 90 dB (VHS Hi-Fi)

FREQUENCY RESPONSE: 20 – 20,000 Hz (VHS Hi-Fi)

WOW AND FLUTTER: Less than 0.005% (WRMS, VHS Hi-Fi)

VIDEO INPUT: Phono type (1 front, 1 rear)

VIDEO OUTPUT: Phono type (1)

AUDIO INPUT: L/R Phono type (1 front, 1 rear)

AUDIO OUTPUT: L/R Phono type (1)

TIMER CLOCK: Crystal locked 12-hour cycle with 3 hour power backup

PROGRAMMABILITY: 8 events/1 month

POWER REQUIREMENTS: 120 V AC, 60 Hz

POWER CONSUMPTION: 25 Watts (maximum)

WEIGHT: 11 lbs, 7 oz. (5.2 kg)

DIMENSIONS (WXHXD): 17 x 3-5/8 x 14-5/8" (430 x 90 x 372 mm)

SUPPLIED ACCESSORIES: RMT-V130 UniCommander Remote Control (with 2 AA-size batteries); Cable Mouse remote repeater; External Antenna Adaptor; 75-ohm Coaxial Cable; Audio/Video Connecting Cord; AC Power Cord; Instruction Manual

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Sony, Cable Mouse, Express Tuning, Rapid Access, Remote Commander, Tab Marker Indexing System and UniCommander are trademarks of Sony.

VCR Plus+ and PlusCode are trademarks of Gemstar Development Corporation.

TV Guide is a registered trademark of News America Publications, Inc.

Features and specifications subject to change without notice.

Non-metric weights and measures are approximate.

Stereo Reception: Stereo and separate audio program (SAP) reception is only available from broadcasts encoded with these services.

² Cable Compatibility: Cable reception is only available to subscribers of the service. This model tunes in most non-scrambled cable channels directly. Scrambled Cable TV channels will require an external converter. Check with your local cable company on channel compatibility and any additional requirements.

SONY®

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National Operations Headquarters
Sony Drive, Park Ridge, New Jersey 07656

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CERTIFICATE OF SERVICE

I, Gayle Kosarin, certify that I have this 21st day of April, 1993, sent by hand-delivery, a copy of the foregoing Reply Comments of Sony Corporation of America to:

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Gayle Kosarin

* By Hand